

Architecture and Engineering Design Services

Statement of Work

19 Jan 2016

1.0 SCOPE

The scope of this contract includes all aspects of architecture and engineering design, construction planning, construction management, and reporting in support of the Defense Threat Reduction Agency (DTRA).

1.1 BACKGROUND

DTRA is responsible for safeguarding America's interest from Weapons of Mass Destruction (chemical, biological, radiological, nuclear and high explosives) by controlling and reducing the threat. Test Division, Technology Development Directorate, DTRA is responsible for fielding and conducting effects testing for high explosives, phenomenology, electromagnetic, chemical, biological, and thermal radiation. The scope and definition of these tests vary as tests are released and applications for participation are received from all branches of service, private commercial industries, foreign governments, and other research activities. To accommodate these needs, contracted effort includes construction of test beds, test structures and other support. The Construction Engineering Section, Test Fielding Branch, Test Division directs and supervises multidisciplinary engineering efforts in support of test bed design and construction.

2.0 REQUIREMENTS

2.1 TASK ORDER (TO) IMPLEMENTATION

The Contractor shall furnish personnel, materials, equipment, and technical efforts to satisfy approved TOs issued under various areas defined in paragraphs 2.1.1 through 2.1.5. TOs shall always be awarded by the Contracting Officer (KO) prior to performance of work in accordance with specific TO Scope of Work (SOW). Such work may require a rapid response from the contractor; therefore surge capability may be required.

2.1.1 AREA 1. Engineering Design. Area 1 includes general and experiment specific design work for test beds and test support facilities. Successful performance will include multidisciplinary engineering effort in the following design categories:

1. General Facilities
2. Reinforced concrete structures
3. Concrete pads and foundations
4. Steel platforms and towers

5. Air blast and ground shock gage mounts and placement
6. Steel frame and concrete block structures
7. Gas and fluid pipe distribution system
8. Road and pavement design
9. Electrical systems and power
10. Mechanical systems (HVAC)
11. Geotechnical investigations, analysis and reports
12. Design surveys
13. Tunnel design

Design in this area is based upon DTRA generated and experimenter provided loading conditions, dimensions and other general requirements. This area also includes producing typed or neatly written design calculations, feasibility studies, concept drawings specifications, material take-offs and cost estimates. Depending on requirements and existing conditions certain designs and calculations shall require review and approval by a Licensed Engineer/Registered Architect prior to submission to the Government for review and final approval. Cost estimates in some cases will be based on labor and equipment rates provided by the Government and material cost determined through research by the Contractor. In all other cases, estimates will be based on prevailing construction factors normally considered in commercial/private projects. All specifications, bill of materials and other reports shall be in a format approved by the Government and conform to current and existing construction codes. When appropriate, all specifications must state the applicable code reference.

2.1.2 Area 2. Design Technician, Construction Drawing and Drafting. Area 2 includes all work associated with the initiation, development, production, and distribution of construction drawings. This area includes the services of an in-house Design Technician located within the DTRA facilities on Kirtland Air Force Base (KAFB) on a full or part-time basis as required. This key position serves as a local interface for all architect and engineering services under the contract as well as providing critical coordination of the construction drawing and drafting service. Performance in this area include developing site layouts, producing concept and detailed construction drawings, layouts for data and optical instrumentation, reproducing drawings, as-built construction drawing compilation, field work as necessary to promote prompt delivery as noted in paragraph 2.2.4, and projections of all test event engineering drawings, schedules and reports. Work includes distributing drawings to DTRA personnel, experimenter and non-DTRA personnel. Work shall also include establishing and maintaining a drawing inventory by test event or facility. Designs submitted by the contractor shall use AutoCAD release 14 or later compatible with DTRA'S desktop systems capabilities. Any transition to newer versions of software shall be coordinated in advance with the government. Construction specifications shall follow the CSI format. The person(s) providing design technician support shall maintain a DoD Secret Clearance.

2.1.3 Area 3. Survey. Area 3 includes topographical and construction survey as well as structural assessment surveys of target structures following tests. Performance in this area includes locating points, determining azimuths and elevations, cut and fill staking, and line of sight distance determinations. Work includes quality assurance checks of dimensions and elevations of ongoing construction projects, and compiling as-built survey data to include exact location of facilities, actual gauge placements, and actual camera lens and target locations. Work also includes supplying all required equipment and transportation to accomplish the above. For target structures, structural assessment surveys shall be conducted by engineers educated and experienced in blast and shock effects on structures, and shall be made from the perspective that these structures are targets and not habitable facilities.

2.1.4 Area 4. Construction Inspection. Area 4 includes quality assurance inspection of all test bed general and experiment specific construction. Construction will include facilities within all general fields outlined in Area 1 (paragraph 2.1.1). Performance in this area shall include maintaining construction diaries, preparing construction and quality assurance reports, data input for construction scheduling, and reviewing contractor submittals. Work also includes receiving, issue and inventory of construction materials, initiating and coordinating documentary photograph requests, cut and fill measurements, limited staking of excavations, and supplying construction skills expertise and technical guidance when required. Work will also include reading and interpreting construction specifications and drawing.

2.1.5 Area 5. Material Properties Determination and Testing. Area 5 will include evaluating construction material characteristics. Performance will include specimen preparation and testing for structural concrete strength and other key properties, steel strength and chemical composition; fiber reinforced product properties, as well as concrete and asphalt pavement properties. Work will also include both field and laboratory soils testing to ensure suitability for use in construction activities and compliance with construction specifications and requirements. Performance requires specimen collection, preparation, transport, testing, documentation and reporting. Work will additionally include electrical and data transmission cable quality assurance checks and ground system capacity measurements.

2.2 GENERAL REQUIREMENTS

2.2.1 Information and Data. Information and data required by the contractor in the performance of approved TOs will ordinarily be provided by DTRA. However, under certain circumstances, additional information or clarification may be required which is not available from the Agency. In such cases, the contractor shall obtain necessary information from other Department of Defense agencies, contractors or foreign government personnel.

2.2.2 Transportation. The Contractor shall furnish vehicles and equipment necessary to accomplish TOs under this contract. Vehicular support must include the capability for off-road travel. In certain situations contractor use of Government Owned Vehicles (GOV) may be deemed advantageous, and will be determined on an as needed basis by the TO Contracting Officer's Representative (COR).

2.2.3 Availability. Contractor shall be available within a 45-minute response time of KAFB, Albuquerque, NM. Engineering service support often requires daily coordination between Contractor and Construction Engineering Section Personnel. Frequent design and construction

coordination meetings may be held at DTRA offices at KAFB or at the Contractor's location. Contractor participation is required. Routine coordination often requires in-person meetings to review construction drawings, outline design assumptions, or define material specifications.

Location of test beds and other facilities under this contract will primarily be on the northern section of the White Sands Missile Range (WSMR), New Mexico. Some work will also be performed on KAFB at the DTRA Chestnut Test Site near the southern border of the base and at Dugway Proving Grounds, Utah. A small percentage of the work may be performed at other sites both in and outside of New Mexico as required by DTRA customers.

2.2.4 Personnel and Equipment. Personnel and equipment support work efforts must be able to establish field operations at the locations noted in paragraph 2.2.3. Field operations will be established within government facilities for periods that may run 8-12 months prior to major test events.

2.2.5 Program Manager. The Contractor shall identify a program manager who shall be responsible for all aspects of the program. The program manager shall serve as the single point of contact for the contract and shall be available for meetings at DTRA, KAFB as necessary. The program manager shall approve all items submitted to the government. The program manager shall maintain a DoD Secret Clearance.

2.2.6 Document Control and Security. The Contractor shall be responsible for providing control, distributions, and safeguarding of all documents related to technical matters under this contract. The Contractor shall comply with the Department of Defense requirements for the handling and safeguarding of classified/sensitive documents. Normal level of classification for the engineering related documents under this contract shall be unclassified. Some work will require classification up to the SECRET level and all personnel associated with this work must have the appropriate clearance. Prior to being assigned such work the employee(s) shall possess a DoD Secret Clearance.

2.2.7 All reports and data shall be submitted in accordance with the Contract Data Requirements List (CDRL) –DD Form 1423, or as further defined by the Task Order.